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DERWENT-WEEK: 200214

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TITLE: Liquid crystal display device

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JP 2000029010 A		January 28, 2000	N/A
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KR 99063559 A		July 26, 1999	N/A
000			
US 6295109 B1		September 25, 2001	N/A
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US 20010055082 A1		December 27, 2001	N/A
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KR 283275 B		March 2, 2001	N/A
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1998KR-0060504		December 26, 1998	
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1998US-0122756		July 27, 1998	
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1998US-0122756		July 27, 1998	
US20010055082A1		Div ex	
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US20010055082A1		N/A	
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US20010055082A1		CIP of	US 6195140
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US20010055082A1		Div ex	US 6295109
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ABSTRACTED-PUB-NO: JP2000029010A

BASIC-ABSTRACT:

NOVELTY - The lagging axis of a phase difference board between a light polarizing unit and a liquid crystal layer, and the lagging axis of another phase difference board between another light polarizing unit and the liquid crystal layer are crossed orthogonally. DETAILED DESCRIPTION - A light polarizing unit is provided on the surface of a liquid crystal layer on a

substrate. Another light polarizing unit is provided on the surface of the liquid crystal layer opposing another substrate.

USE - None given.

ADVANTAGE - Offsets wavelength dependence of refractive index anisotropy of phase difference board. Obtains reflecting function and permeability function.

Improves dark color display. Increases contrast of device.

Obtains allowance amount corresponding to productivity. DESCRIPTION OF DRAWING(S) - The figure shows the top view of a liquid crystal display device.

ABSTRACTED-PUB-NO: US 6295109B

EQUIVALENT-ABSTRACTS:

NOVELTY - The gate wiring (3) and source wiring (9a) are arranged in orthogonally cross direction. The reflecting electrode (11) and permeable

electrode (8a) connected electrically to drain electrode (9c) of TFT (7) in respective areas (A,B) form a pixel electrode. The reflecting and permeable electrodes have high optical reflecting efficiency.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for LCD panel manufacturing method.

USE - In LCD panel used as permeability type and reflection type display or combined-use type used in OA apparatus such as PC, electronic notebook.

ADVANTAGE - Excels in utilization efficiency of perimeter light and illumination light and hence the display quality is stabilized. DESCRIPTION OF

DRAWING(S) - The figure shows the top view of LCD panel.

(3) Gate wiring; (7)

TFT; (8a) Permeable electrode; (9a) Source wiring; (9c)

Drain electrode; (11)

Reflecting electrode; (A,B) Areas.

* NOTICES *

Japan Patent Office is not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the cross section of the liquid crystal display of the operation gestalt 1 of this invention.

[Drawing 2] It is the plan of the liquid crystal display of the operation gestalt 1 of this invention, and the operation gestalt 2.

[Drawing 3] It is drawing showing the transparency state of the light in the reflective field of the liquid crystal display of the operation gestalt 1 of this invention.

[Drawing 4] It is drawing showing the transparency state of the light in the transparency field of the liquid crystal display of the operation gestalt 1 of this invention.

[Drawing 5] It is drawing showing the wavelength of the light when performing a black display, and the relation of permeability.

[Description of Notations]

- 1 Two Substrate
- 3 Reflector
- 4 Counterelectrode
- 5 Liquid Crystal Layer
- 6 Nine Polarizing plate
- 7 Ten $\lambda/4$ board
- 8 Transparent Electrode

[Translation done.]